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AEC 2015: Is Thailand Ready to Be the Leader of E-ASEAN

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Abstract: This research aims to develop the e-ASEAN readiness assessment framework, and analyzing whether Thailand is ready to be the leader of e-ASEAN when compared to other ASEAN Member States. This research will reflect the issues aligned with the e-Readiness framework that Thailand needs to urgently improve when comparing to other ASEAN Member States for its country, economy, and society development. The result shows that Thailand was ranked by several institutes at the lower level than Singapore and Malaysia in every index concerning e-Readiness Assessment. Moreover, Thailand is ranked in the lower position than Brunei in several indexes.

Keywords: e-readiness, ASEAN, AEC, Thailand

1. Introduction

In the digital economy, it is indisputable that the information and communications technology (ICT) plays an important role in the ways of life, communication, and work, especially, the capabilities of the information technology that are continuously developed. These capabilities also have an influence on the country, business, and society development. As a result, governments in most countries are aware of identifying clear strategies and policies to push the country's readiness in information technology and communication (E-Readiness), especially among ASEAN countries, which have to prepare themselves before AEC opening in 2015 (ICT2020, 2011).

The ASEAN Information Summit, hosted in the Philippines, agreed the e-ASEAN Initiative in order to prepare for e-Readiness. The e-ASEAN Task Force (EATF) is formed to study for the guidelines for ASEAN countries cooperation in information technology, to prepare for the effects and to enable ASEAN to benefit from the opportunities offered by the revolution in information technology and electronic commerce. This initiative also aims to liberalize trade in information technology under the WTO framework. In 2000, the government leaders of ASEAN Member States agreed and signed the e-ASEAN Framework Agreement. This framework is for preparing the readiness in terms of Information Technology Infrastructure, e-Commerce, e-Society, and e-Government (IBM, 2001).

However, there are several tools to measure e-Readiness Assessment including Bridges (2001), Dada (2006), and Vaezi and Bimar (2009) which share some dimensions in common. Therefore, this research is aimed at developing the e-ASEAN readiness assessment framework, and analyzing whether Thailand is ready to be the leader of e-ASEAN when compared to other ASEAN Member States. This research will reflect the issues aligned with the e-Readiness framework that Thailand needs to urgently improve when comparing to other ASEAN Member States for its country, economy, and society development.

2. Review of literature and conceptual framework

In the past, several electronic readiness (e-Readiness) Assessment tools were developed. The e-Readiness Assessment is used for analyzing the degree to which the society and/or the economy of the specific country

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is prepared to get the benefit from the information technology. This readiness has an influence on social and economy development of that country. E-Readiness Assessment is named differently with different details of its ranking indicators as follows:

2.1 e-Readiness Economist Intelligence Unit (EIU)

Economist Intelligence Unit (EIU) is famous for studying political, economical, and social research of the Economist Group. EIU used the framework of e-Readiness Assessment in terms of e-Readiness rankings. Until in 2010, EIU cooperated with IBM for the study. Then, the e-Readiness rankings are being renamed as the Digital economy rankings. The rankings categories and their weights of indicators have been revised to better reflect the digital era that has an influence on consumers and organizational behaviors. The assessment criteria for rankings are categorized into 6 factors. Each factor and their different weights in overall scores are described as follows (Table 1):

Table 1: Assessment criteria for digital economy rankings by EIU

Factors	Weight (%)
Connectivity and technology infrastructure	20
Consumer and business adoption	25
Business environment	15
Social and cultural environment	15
Legal environment	10
Government policy and vision	15

Source: Economist Intelligent Unit, Digital economy rankings, 2010**.**

2.2 e-Government Development Index United Nations (UN)

E-Government Development Index (EGDI) is an index to indicate the development of electronics in the government sector. Since 2008, EGDI has been conducted by the Department of Economic and Social Affairs at the UN. EGDI is ranked every 2 years. EGDI separated the criteria into 3 factors and weighted each factor as shown in Table 2.

Table 2: Assessment criteria e-Government Development Index (EGDI) by UN

Factors	Weight
Online service index	1/3
Telecommunication infrastructure index	1/3
Human capital index	1/3

Source: United Nations, United Nations E-government Survey, 2010.

2.3 Networked Readiness Index World Economic Forum (WEF)

Networked Readiness Index (NRI) is developed by World Economic Forum (WEF). NRI is a benchmarking study of the networked readiness, which assesses political environment, marketing and infrastructure, the readiness of business sector, government sector, and person, as well as information technology and communication usage. Networked Readiness Index is composed of 3 factors as shown in Table 3.

Table 3: Assessment criteria for Networked Readiness Index (NRI) by WEF

Factors	Weight
Environment	1/3
Readiness	1/3
Usage	1/3

Source: World Academic Forum, The Global Technology Report 2010-2011.

2.4 Digital Access Index (DAI) International Telecommunication Union (ITU)

Digital Access Index (DAI) is ranked by the International Telecommunication Union (ITU). It is the leading organizations of UN in information technology. It also becomes the center to develop the networks and services for governmental and private sectors worldwide. DAI is an index to measure the capabilities in accessing the overall information technology usage of each country. DAI considers main factors that have an influence on information technology access as follows (Table 4).

Table 4: Assessment criteria for Digital Access Index (DAI) by ITU

Factors	Weight (%)
Infrastructure	20
Affordability	20
Knowledge	20
Quality of broadband	20
Internet Usage	20

Source: http://www.itu.int/ITU-D/ict/dai

2.5 ICT Development Index (IDI) ITU

This index is developed by the International Telecommunication Union (ITU). It is composed of 3 factors; namely, ICT access, ICT use, and ICT skill, as shown in Table 5.

2.6 Global Competitiveness Index (GCI) WEF

Global Competitiveness Index is an index that measures the competitiveness of several countries, prepared by World economic forum or WEF. There are 3 main factors for considering the Global Competitiveness Index; namely, basic requirement, efficiency enhancers, and Innovation and sophistication factors. Technology readiness is one of the sub-factors of the efficiency enhancer factor. It measures technology and ICT usage. These factors are weighted according to the assessment in 3 stages as shown in Table 6.

Table 5: Assessment criteria for ICT Development Index (IDI) by ITU

Factors	Weight (%)
ICT access	40%
ICT use	40%
ICT skill	20%

Source: International Telecommunication Union, Measuring the Information Society 2011.

Table 6: Assessment criteria for Global Competitiveness Index (GCI) by WEF

Factors	Factor-driven stage (%)	Efficiency-driven stage (%)	Innovation-driven stage (%)
Basic requirements	60	40	20
Efficiency enhancers	35	50	50
Innovation and sophistication factors	5	10	30

Source: World Academic Forum, Global Competitiveness Report 2011-2012.

2.7e-ASEANreadiness IBM

In ASEAN context, an IT infrastructure framework has been established for the assessment by the e-ASEAN Framework Agreement (http://www.aseansec.org/17972.htm). This is for establishing high-speed direct connection between their national information infrastructures with a view to evolving this interconnection into an ASEAN information infrastructure backbone. This framework hoped to develop ASEAN cooperation in digital libraries and

tourism portals. The framework also aimed at facilitating the setting up of national and regional Internet exchanges and Internet gateways.

Next topic in the development of e-ASEAN is e-Commerce readiness. It involved with electronic commerce transactions, recognition of digital signature, electronic payment, intellectual property rights and personal data protection. Furthermore, e-Society must also be assessed. It involved with enhancing IT competitiveness of the ASEAN workforce, narrowing the digital divide within the country and among Member States, facilitating freer flow of IT knowledge workers, and fostering the usage of IT to develop ASEAN community to be e-Society. E-Government readiness is also important in promoting the use of ICT applications in the government sector such as in the delivery of government services and their procurement of goods.

When gathering the readiness assessment formats above, it was found that some assessment tools were similar whereas some were different depending on the assessment objectives. Vaezi and Bimar (2009) proposed that the e-Readiness Assessment should cover the information technology infrastructure, economy and society, and public sector management.

There were many indicators in each factor that can be used as the readiness assessment for information and communications technology. For example:

- Connectivity and Technology infrastructure: examples of its indicators are broadband penetration; mobile-phone penetration; broadband quality; broadband affordability; Internet user penetration etc.
- General environment: examples of its indicators both in business and political and legal environments are macroeconomic environment; overall political and legal environments etc.
- e-Society: examples of its indicators are literacy level; educational level; internet usage level etc.
- e-Government: examples of its indicators are availability of online public services for citizens and businesses; digital development strategy; e-Government strategy; government spend on ICT as a proportion of GDP; human capital development etc.
- Consumer and business adoption/ e-Commerce: examples of its indicators are use of Internet by consumers and their online purchasing activity; level of e-business development etc.

This study collected the readiness assessment framework for information and communications technology from the above formats. The research used these five categories as e-ASEAN leader assessment framework that was aligned with several institutes. These criteria for rankings can be summarized as shown in Table 7.

3. Methodology

Literature was studied and reviewed in order to develop the detailed conceptual framework for e-Readiness Assessment in the context of e-ASEAN. Secondary data and previous research about ASEAN Member States were gathered. Other statistics data sets about e-Readiness reported by several institutes including EIU /UN / WEF / ASEAN were collected. The information and communications technology master plan of each country was also revealed in order to develop the framework for analyzing and assessing the readiness to be the leader in information and communications technology.

4. Analysis and conclusion

From the previous ranking information, it is found that Thailand was ranked by several institutes at the lower level than Singapore and Malaysia in every index concerning e-Readiness Assessment. Moreover, Thailand is ranked in the lower position than Brunei in several indexes as shown in Table 8.

Furthermore, the analysis of information about general environment of ASEAN countries found that Thailand has poorer economic conditions than Brunei, especially when considering on the highest Gross Domestic Product or GDP (Table 9). Furthermore, Thailand is considered as a country with very low political stability (Table 10), which will have an influence on concretely and continuously pushing the ICT Master Plan and become the leader of e-ASEAN in 2015.

Table 7: Readiness assessment framework for information and communications technology

Factors	Digital Economy Ranking	NRI	e-ASEAN	EGDI	DAI	IDI
1 Connectivity and Technology infrastructure	✓	✓	✓	✓	✓	✓
2 General environment	✓	✓	✓	✓		
3 e-Society	✓	✓	✓	✓	✓	✓
4 e-service/ e-Government)	✓	✓	✓	✓	✓	
5 Consumer and business adoption/ e-Commerce	✓	✓	✓	✓	✓	✓

Table 8: Summary of ranking index from several institutes

Country	Summary of ranking index from several institutes						
	Digital Economy Rankings (2010)	NRI (2012)	EGDI (2012)	IDI (2010)	GCI (2012)	DAI (2011)	e-ASEAN (2001)
Singapore	1	1	1	1	1	Very high	1
Malaysia	2	2	2	3	2	high	2
Thailand	3	4	6	5	4	high	3
Brunei	N/A	3	3	2	3	high	5
Vietnam	5	6	4	4	6	medium	7
Philippines	4	7	5	6	7	medium	4
Indonesia	6	5	7	7	5	medium	6
Cambodia	N/A	8	9	8	8	low	8
Laos	N/A	N/A	8	9	N/A	low	10
Myanmar	N/A	N/A	10	N/A	N/A	low	9

Table 9: Information for general environment of the ASEAN countries

Country	Population (million people)			GDP per capita (USD)			adult literacy / ICT affordability
	2012	2013	2014	2012	2013	2014	2011
Singapore	5.2	5.2	5.2	54,194.4	59,232.5	64,858.3	92.5 / .99
Malaysia	29.2	29.6	30.0	10,292.2	10,815.8	11,534.7	87.9 /.97
Thailand	70.2	70.8	71.3	5,266.6	5,867.9	6,333.0	95.7 / .96
Brunei	0.42	0.42	0.43	39,355.5	37,879.9	37,692.3	91.6 / .99
Vietnam	89.1	90.2	91.3	1,374.1	1,508.9	1,674.3	92.7 / .45
Indonesia	245.1	247.8	250.5	3,805.9	4,322.0	4,846.7	87.3 / .62
Philippines	29.0	97.5	98.9	2,526.8	2,737.1	2,996.3	95.1 / .80
Myanmar	48.7	51.7	52.1	854.6	908.6	954.8	85 / N/A
Cambodia	14.7	14.9	15.2	951.3	1,048.3	1,154.6	68.7/ N.A.
Laos	6.5	6.6	6.7	1,563.1	1,718.5	1,898.1	65.6 / N/A

Source: ITU, 2011; http://www.itu.int/ITU-D/ict/dai/index.html

Table 10: Percentiles of political stability

Country	2008	2009	2010
Brunei	91.8	95.3	92.9
Singapore	96.2	90	89.6
Malaysia	47.6	43.1	51.9
Vietnam	50	52.6	51.4
Laos	45.7	40.3	36.3
Cambodia	15.9	24.2	18.9
Indonesia	15.9	21.3	18.9
Thailand	12.5	12.3	12.7
Myanmar	13.9	10.9	11.3
Philippines	8.7	7.6	6.6

Source: Kaufmann et al. (2010)

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